

Aerospace Education

Member News

Helping America's Teachers Teach America's Future
Focusing on Science, Math, and Technology Education

*LEARNING FOR THE NEW MILLENNIUM
CELEBRATING 100 YEARS OF FLIGHT*

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FROM THE EDITOR

As you prepare for another teaching year, we are developing a program to celebrate one hundred years of flight. Throughout this issue you will find websites, places to visit and professional development opportunities to "get you ready" for this one hundred year venture. It will be an exciting adventure as we start our professional development in Dayton, Ohio at the first Tri-Region Conference and then move on to the National Congress on Aviation and Space Education in Minneapolis, Minnesota.

Future issues will feature a myriad of programs and strategies for use in the classroom to follow our one hundred year theme. We are always looking for new ideas for the newsletter, Do you have a "great idea" that works for you? Why not send it along for the next issue. Send your material to Dr. M. Ann Walko, RDAE/NER at 2160 East 2nd Street, McGuire Air Force Base, New Jersey 08641-5018 or fax your material to 609-724-5675 or email it to edudoc98@aol.com.

WELCOME

Our new Chief of Aerospace Education is Lt Col John Salvador, USAF (ret). John graduated from the United States Air Force Academy with a B.A. in Aeronautical Engineering and earned a master's degree in Management from Webster University. He served as an instructor pilot for most of his career, teaching new Air Force officers the principles and dynamics of flight. He also worked in research and development at the Pentagon and served in Turkey during the Gulf War and Kurdish Relief effort.

Lt Col Salvador has an impressive Air Force dossier leading him to become the Director of Operations for Headquarters, Civil Air Patrol where he directed all flight activity for CAP-USAF. John's family includes wife, Debbie, and three sons, Matthew, Eric, and Adam. John has been on board as Chief of Aerospace Education since May 2000.



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AEM PROFESSIONAL DEVELOPMENT OPPORTUNITIES

MARK YOUR CALENDARS:

The Civil Air Patrol will be sponsoring two great programs to enhance the professional development of teachers.

The first tri-region conference entitled LEARNING FOR THE NEW MILLENNIUM-CELEBRATING 100 YEARS OF FLIGHT will be held Thursday-Saturday, November 2-4, 2000 at Sinclair Community College, downtown Dayton, Ohio. Contact Alice Noble, CAP Great Lakes Region Director of Aerospace Education if you would like to be a concurrent session presenter. Use email (Alice.Noble@wpafb.af.mil), phone-937-257-6836 or fax to 937-257-8260.

The 2nd John Glenn Aerospace Invitational Youth Competition for students in grades 3-12 will be held in conjunction with the conference.

In addition to Alice Noble, you can contact Dennis Yeager, CAP NCR/DAE at dennis.yeager@minneapolis.af.mil or Dr. M. Ann Walko at edudoc98@aol.com. Mr. Yeager's phone number is 612-713-1471 and Dr. Walko's phone is 609-724-2967. Brochures will be sent upon request.

THE NATIONAL CONGRESS ON AVIATION AND SPACE EDUCATION—Science, Math, and Technology for Today's Classrooms will be held on 14-17 March 2001 in Minneapolis, Minnesota at the Hyatt Regency Hotel.

The Congress is America's premier Aerospace Education conference. It is an educational symposium with a total of 30 contact hours. Program sessions include a variety of classes, lectures, symposia, and practicums. Dick Rutan, pilot of the first non-stop, unrefueled flight around the world, will be one of the featured guest speakers. The program addresses national standards.

Join us at the 34th annual National Congress. More information can be obtained on the web at <http://www.capnhq.gov>. Click the conference button in the left column, then click the red National Congress button. Or, contact the Civil Air Patrol Region Director of Aerospace Education in your area.

A SYLLABUS REGIONAL CONFERENCE will be held November 30 – December 3, 2000 in Boston entitled **Planning for Change: Web Supported and Distance Learning** courses. Go to www.syllabus.com for more details. Syllabus publishes a magazine on new directions in education technology.



SEE THE WEB:

SCIENCE SCOPE is a journal for junior high and high school teachers distributed by the National Science Teachers Association. You can reach them at <http://www.nsta.org/pubs/scope>.

The 1997 (February) issue is a good reference for Mars Exploratory Vehicles complete with a lesson plan, task cards, and resources.

Distance Learning on the Net
www.hoyle.com/distance.htm

Educator Glenn Hoyle has designed a web site for teachers and administrators looking for information, resources, and news about distance learning. The site, which includes links that are screened for quality and reputation, features a bulletin board for discussion and sharing, a list of colleges and universities offering distance learning, and definitions and background on the topic.

Women's International Electronic University
www.wvu.edu

Women's International Electronic University is an international, independent, non-profit corporation and consortium dedicated to educating and empowering women through Internet technology, promoting cross-cultural communication, and providing a base for collaborative teaching, research, and projects. In addition to offering interactive chat, and links to educational and communication networks and events of special interest to women worldwide, the WIEU offers a series of online courses in such areas as computer applications, women and technology, travel, and nursing.

There is a website called **The Learning Web**, dedicated to K-12 Earth Science education maintained by the U.S. Geological Survey. Why not try The Learning Web at <http://www.usgs.gov/education?>

Why not try and get on the mailing list for free educational materials for the **PBS Series Newton's Apple**...c/o NSTA-Marketing Department, 1840 Wilson Boulevard, Arlington, VA 22201-3000?

HomeworkCentral.com (part of bigchalk.com) has 14,000 lesson plans to enhance your curriculum and pre-screened, grade-appropriate information.

Science and Children is a journal devoted to pre-school through middle level science teaching from the National Science Teachers Association. Visit the website at: <http://www.nsta.org/pubs/sc>

FROM VIDEODISCOVERY – Real Science, an interactive program for students, explores 28 Careers in Science and Technology. Explore the online catalog at www.videodiscovery.com.

Integrating the curriculum is a hot topic at all levels of educational reform. **Creating Integrated Curriculum – Proven Ways to Increase Student Learning** by Susan M. Drake offers suggestions to teachers involved in integrating a school's curriculum. Another hot topic is Collaboration. Collaborative observation can pave the way for improved student performance and teacher growth. **Collaborative Observation – Putting Classroom Instruction at the Center of School Reform** by Karen H. Peters and Judith K. March offer ideas for successful change to occur. Both books are from Corwin Press, Incorporated. Call 800-4-1-school or send an email to order@corwinpress.com.

THE NATIONAL SCIENCE TEACHERS ASSOCIATION has a great catalog encompassing science standards, assessment, astronomy, curriculum tools, earth science, software/CDs, and teaching strategies. Visit the website at www.nsta.org/scistore.

The National School Boards Association is offering the Student Achievement Series which includes the following publications:

- Raising the Bar –
a school board primer on student achievement...
- Reaching for Excellence –
what local school districts are doing to raise student achievement...
- Reinventing School – Based Management –
a school board guide to school-based improvement.

The resources are available for \$20.00 each but are discounted to NSBA National Affiliate Districts. Quantity discounts may also be available. For more information call 800-706-6722.



AEM NOTES

Several big city school districts receiving Federal Title I money in an effort to raise the achievement scores of needy students are proving successful, according to a recent report conducted for the U.S. Department of Education.

The report covered three years of student achievement in 13 large districts and ten showed increases in achievement in reading or mathematics.

Unfortunately, middle schools showed less improvement – the very area Civil Air Patrol has targeted through its middle school program!

The report called Student Achievement and Reform Trends in 13 Urban Districts is available for \$10.00 by writing the McKenzie Group at 1100 17th St. N.W., Washington, DC 20036.

Contact your nearest Region Director for Aerospace Education for information about the Civil Air Patrol Middle School program and see our article under ***From Around the Regions*** in this issue as well as the Professional Development section.

Integrated Instruction works! A recent study found that fifth graders who were taught in integrated instruction did far better on the Maryland State Performance Assessment Program or MSPAP by gaining an average of 30% on reading comprehension tests over other students.

Did you know that the Civil Air Patrol educational materials can be used “across the curriculum” because of their “integration” emphasis? Contact your RDAE for materials to embellish your teaching.

The National Council for Accreditation of Teacher Education (NCATE) will issue new standards that will require evidence that graduates of schools of education can successfully teach children. The new standards will strongly emphasize technology indicating it should be integrated throughout the curriculum. The standards are available on-line at www.ncate.org.

Has your school received a Blue Ribbon lately? Nearly 4,000 U.S. schools have earned the Blue Ribbon designation. The National Blue Ribbon Schools program, launched by the U.S. Department of Education in 1983, has evolved from a simple recognition effort into a detailed self-analysis that is a valuable tool to help schools improve. More information is available online at the U.S. Department of Education’s Web Site: www.ed.gov/offices/OER/BlueRibbonSchools.

The U.S. Department of Education’s office of Special Education Programs (OSEP) wants input on a long-range plan for its IDEA National Program (Part D of the Individuals for Disabilities Education Act). The plan will identify national activities for linking best practices to states, school systems, and families to improve results for children and youth with disabilities.

To participate, go to the website at www.OSEPplanning.org and complete the survey online. If you would prefer a print survey, call 800-510-1668 or send an email to OSEPplanning@westat.com

BE ALL THAT WE CAN BE: Lessons From the Military for Improving Our Nation’s Child Care System is available free from the National Women’s Law Center, 11 Dupont Circle, N.W., Washington, DC 20036; 202-588-5780; or online at www.nwlc.org.

Following a 1989 federal law, the nation's armed forces improved the quality of child care for more than 200,000 and their strategies should serve as a model for the nation according to a new study by the National Women's Law Center.

Caregivers working in military centers receive extensive professional development and pay raises based on their training practices resulting in lowering turnover rates.

Does academic preparedness affect the likelihood that at-risk students will enroll in higher education? Does the quality of math content in 8th grade U.S. classrooms compare with that of schools in Germany and Japan? Find the answers to these questions and others by going on line at <http://nces.ed.gov> to access The 2000 Condition of Education report by the National Center for Education Statistics. The 340-page report can also be ordered by calling, toll free, 877-4ED-PUBS.

The National Standards on Technology Education have been released and copies can be ordered for \$30.00 from the International Technology Education Association at 703-860-2100 or you can go online at www.iteawww.org.

Prize-winning scientists and engineers will visit middle schools across the country as part of an initiative by The National Science Foundation. According to a survey done by the Market Research Institute, the Nation's K-12 science teachers stressed the need for students to have one-on-one contact with scientists and engineers to help prepare them for a technologically advanced world.

The American School Directory at www.asd.com/ is a database of all 108,000 schools in the U.S. More than 70,000 of the schools have interactive websites updated with local links. A link to the free "Federal Resources to Educational Excellence" and a link to "Gateway" give teachers hundreds of **FREE** lessons and materials for the classroom. Another is "Education Connection," which has links for science and other content areas.

In the future, your school might call in a "temp" instead of a substitute teacher. Kelly services realizes that the growing teacher shortage might make "subs" harder to find. The company has announced the launching of Kelly Educational Staffing. It will recruit and train substitute teachers!

PROFESSIONAL DEVELOPMENT READING

Cases for Middle School Educators by Theresa Siskind of the South Carolina Oversight Committee (ISBN 0-8108-3762-5) advocates that once students have developed the knowledge base, case analysis allows them to practice problem solving, to mesh theory and practice, to stimulate situations, and to work on collaborative solutions.



QUALITY MIDDLE SCHOOL LEADERSHIP by L. David Weller, Jr. from the University of Georgia (ISBN 1-56676-681-8) provides a design to assist middle school principals in their efforts to reform middle school education through practical application of effective research. The book addresses the demands for school reform and quality outcomes.

RUBRICS – A Handbook for Construction and Use (editors) Germaine L. Taggart, Sandra J. Phifer, Judy A. Nixon, and Marilyn Wood all from Fort Hays State University, Kansas (ISBN 1-56676-652-4) provides information concerning rubrics that, when used to evaluate authentic teaching and learning, are valid and reliable assessment tools.

NUTS AND BOLTS – Survival Guide for Teachers by Cindy J. Christopher, a classroom teacher, (ISBN 0-87762-858-0) provides teachers with a practical guide to starting right and staying right in the first few years of teaching. The book gives effective techniques for classroom management, lesson planning, record-keeping, problem-solving, good relations with parents and effective teaching. A good resource for new teachers as well as experienced teachers.

All of these readings come from Scarecrow Press Educational Division – www.scarecrowpress.com or 1-800-462-6420.

ACTIVE LEARNING: 101 Teaching Strategies to Teach Any Subject by Mel Silberman of Temple University (ISBN 0-205-17866-9) features a comprehensive collection of active learning techniques. Look for 101 specific teaching techniques clearly articulated for easy implementation, 120 tips, suggestions, and ideas for using the strategies in the classroom, and step-by-step instructions for using each strategy in the classroom.

WHIZBANGERS AND WONDERMENTS: Science Activities for Young Children by Joseph Abruscato, University of Vermont (ISBN 0-205-28409-4) is interdisciplinary, relating science to language arts, math, and the arts and follows the recently developed National Science Education Content Standards for grades K-8. The book provides unique activities for lesson and unit plans in the classroom or in the home.

TEACHING MIDDLE SCHOOL MATHEMATICS: Activities, Materials, and Problems by Stephen Krulik and Jesse A. Rudnick (ISBN 0-205-28628-4) features 87 interesting math activities and real-life math problems with extensions for different ability levels for each activity.

Books come from Teachers Resources from Allyn and Bacon at www.abacon.com/professional or call 1-800-278-3525.

CREATING INTEGRATED CURRICULUM – Proven Ways to Increase Student Learning by Susan M. Drake (paper – D0406-0-8039-6717-9) emphasizes that integrating the curriculum is one of the most popular explorations that is ongoing at all levels of educational reform. The book offers different approaches to integration and resources to embellish the content.

This offering is from Corwin Press, Inc. at 805-499-9774 or toll free fax at 800-4-1-school.

RESOURCES

THE CHARACTER EDUCATION PARTNERSHIP, or CEP, is a non-partisan, nonsectarian coalition dedicated to developing moral character and civic virtue in our nation's young people. CEP established the National Schools of Character Program to identify outstanding school programs that promote civic and character education. Go to the website at www.character.org for more information.

Share the **wonders of the universe** with videos from IN.TELE.COM. Ask for a free brochure by calling 800-576-2988 or use their fax number: 818- 577-4282.

CLEVER CALCULATOR CAT – a 32-page story book has calculator questions which encourages kids to use their calculators to check facts. Neat story. Go to www.stokesco.com.

Visit www.ALFY.com/tlc to explore **interactive theme units**, a virtual lesson builder, an award maker and more.

WEATHER EXPLAINED: A Beginner's Guide to the Elements by Derek Elsom from HOLT (ISBN 0-8050-4875-8). The author has taken complex information and translated it into understandable text.

LANGUAGE ARTS – Lesson plans, chats with award-winning authors of children's and young adult books, discussion groups, online curriculum projects and activities, news for students in grades three to eight, professional resources, research tools, and planning calendars are among the activities found on Scholastic's site (www.scholastic.com).

LEARNING DISABILITIES – Educators can get basic information on learning disabilities, resources for educators and parents, articles, and an online newsletter on the Schwab Foundation for Learning site (<http://www.schwablearning.org>). Educators can also gain one-on-one access to learning disability experts on learning differences and receive personalized responses to their concerns through the site or a toll-free number (800-230-0988). The in-depth services and individual guidance are available for \$40 for one year, \$60 for two years, or \$100 for lifetime membership. The site is sponsored by brokerage company founder Charles Schwab.

MATHEMATICS – “Now Figure This!” (<http://www.nowfigurethis.org>) is a new site that offers parents tools to help them take active roles in their children’s mathematics education.

MATHEMATICS/SCIENCE – SportsFigures (<http://sportsfigures.espn.go.com>), designed to complement ESPN2’s award-winning Cable in the Classroom series, offers an area for students and one for educators, with lessons on math and physics, educational games, trivia, curriculum information, and audio and video clips. The series, which airs 5:30 a.m. Mondays, explores math and physics concepts in the world of sports, using well-known athletes to help explain the relationships.

MULTIPLE INTELLIGENCE – The Family Education Network (<http://familyeducation.com/article/0,1120,23618,00.html>) shows teachers how to use the multiple intelligence theory to identify and promote student strengths and learning.

FAMILY INVOLVEMENT – The Education Excellence Partnership (<http://www.edex.org>) – a coalition of public officials, business and teacher organizations, including the National Education Association – is working to strengthen the academic future of America’s children by encouraging parents to get more involved in their children’s education and to support high academic standards.

HOLOCAUST/GENOCIDE EDUCATION – The Anti-Defamation League’s “Children of the Holocaust: Poster and Discussion Guide” (www.adl.org) recounts the war-time experiences of three child survivors. The online resource serves as a teacher’s guide, providing historical information about the Holocaust years and the children of the Holocaust, a glossary of terms, a list of supplementary reading for middle school, and suggestions for appropriate and sensitive implementation of classroom activities and discussion.

INTEGRATED SCIENCE (Books 1, 2, and 3 – grades 6-9) – a comprehensive activity-oriented science curriculum for junior high/middle school that includes life, chemistry, physics, earth and space sciences. Over 350 activities are presented. For more information, visit the web at info@lebel.com or call 972-661-0687.



DEMO/BOOK COMBINATION – See chemical demonstrator Bob Becker do the Flaming Vapor Ramp and the Hero’s Fountain --- students will be captivated by what they see. More information is available from Flinn Scientific, Inc.; call 1-800-452-1261 or go to flinnsci@aol.com.

Have you used the resources from the Mineral Information Institute? You should because the materials are **FREE!** The Institute has great materials on rocks and minerals and their importance to society. **You must use a school address** and indicate the level you teach. The materials include lesson plans, posters, videos, etc. For more information contact:

Mineral Information Institute
501 Violet Street
Golden, Colorado 80401
303-277-9190 or fax to 303-277-9198
www.mii.org

Please note the video offer from MII in this issue. Enjoy!

GRANTS/AWARD PROGRAMS

IOMEGA CORPORATION – a maker of personal storage products (zip disks and drives), gives product donations and small cash contributions to support K-12 education nationwide.

Deadline: None. Submit requests in writing.

Funds: Giving is focused on donations of Iomega equipment, but the company also gives small cash contributions.

Eligibility: Nonprofit organizations, including K-12 schools.

Areas: The company supports any area of K-12 education, but is especially interested in education technology.

Contact: Send requests to Paul Slack, Iomega Corp. Headquarters, 1821 W. Iomega Way, Roy, UT, 84067; for company information, see www.iomega.com.

THE DANFORTH FOUNDATION is dedicated to improving the humane dimensions of life through grants to improve the quality of teaching and learning nationwide.

Deadline: Letters of inquiry are accepted year round.

Funds: Grants range from \$30,000 to \$100,000.

Eligibility: Nonprofit organizations and schools.

Areas: Proposals should describe methods of strengthening schools in any of three focus areas: a good beginning for every child; school, family and community partnerships; and leadership for schools.

Contact: Send clear, concise letters of inquiry to The Danforth Foundation, 231 South Bemiston Ave., Suite 1080, St. Louis, MO 63105, 314-862-6200;

www.reeusda.gov/paynet/fd/fddanfor.htm



BEST BUY CHILDREN’S FOUNDATION – invests in organizations and programs committed to making a difference in the lives of K-12 children in areas where the company has stores.

Deadline: Proposals are reviewed quarterly.

Funds: \$1.3 million. Community grants range from \$2,000 to \$10,000.

Eligibility: Nonprofit organizations and schools in communities in which Best Buy maintains a presence. (Call 800-369-5050 for store locations.)

Areas: Grants target innovative programs that promote personal achievement, mentor relationships and life skills, or that accentuate learning opportunities for schoolaged children. Support can include such areas as program initiation, curriculum development and volunteer support.

Contact: Contact Carrie Monroe, Best Buy Children’s Foundation, 7075 Flying Cloud Dr., Eden Prairie, MN 55344, 612-947-2650, carrie.monroe@bestbuy.com or www.bestbuy.com/companyinfo/community/indx2.asp.

GRANTS AND MATERIALS FROM SHOPA- The SHOPA (School, Home and Office Products Association) Foundation for Educational Excellence’s “Kids In Need” Resource Centers in Chicago, Los Angeles, St. Paul (MN), Seattle, Washington D.C., Atlanta and Cincinnati are operated through a partnership with World Vision, Inc.

The Resource Centers are stocked with school supplies donated by SHOPA member companies, which are distributed to eligible teachers at no charge.

The Foundation also offers \$1,000 Help-A-Teacher Grants, which work together with the Kids In Need program to support innovative projects that might not otherwise get funding. This year, more than \$76,000 in grants will be awarded to 106 educators in 37 states.

Other Kids In Need program benefits include the “Best Practices Guide,” a resource that contains a collection of successful classroom projects submitted by past grant recipients. Surveys of the grant recipients are being developed to track student trends as a way to inform SHOPA member companies of what is needed for the back-to-school season.

For more information on eligibility requirements for Help-A-Teacher Grants and free materials from the Kids In Need Resource Centers, contact Penny Hawk at 937-297-2250.

ALLSTATE FOUNDATION - Allstate Corporation, an insurance company, gives grants to support automobile and highway safety, home safety, neighborhood revitalization and personal safety and security including school-based programs addressing these issues.

Deadline: None

Funds: Grants typically range from \$5,000 to \$10,000.

Eligibility: Nonprofit organizations, including public K-12 schools.

Areas: Grants to schools generally fall under the “personal safety and security” priority. In this area, the foundation seeks initiatives that help make the community safer. Programs should raise awareness of things such as poverty, child abuse, prevention of violence and drug use, protection against gangs, guns, sexual harassment and domestic violence.

Contact: For Foundation information and guidelines, contact Executive Director, The Allstate Foundation, 2775 Sanders Rd., Suite F3, Northbrook, IL 60062-1627; 847-402-5502; allfound@allstate.com; www.allstate.com/foundation.

CAPTAIN PLANET FOUNDATION - awards grants to support innovative, hands-on environmental education projects that will help children and youth build problem solving skills and environmental awareness.

Deadline: None

Funds: Grants typically range from \$250 to \$2,500.

Eligibility: Nonprofit organizations and schools.

Areas: Projects must promote understanding of environmental issues; involve young people, aged 6 to 18, and help them to develop planning and problem-solving skills; take a hands-on approach; promote group interaction and co-operation; include adult supervision and commit to follow-up with the Foundation.

Contact: For guidelines, contact Sona Chambers, Manager, Captain Planet Foundation, 404-827-4130; Captain.Planet.Foundation@turner.com; www.turner.com/cpf.

NEW PROGRAM FROM TYSON – Project A+ - Support your School! An easy way to earn cash for your school. Just clip and save Tyson Project A+ panels on chicken packages. (Each panel is worth 24 cents!) Turn in the panels at your school. The Tyson program runs during the school year, but you can save A+ panels during the summer and turn them in during fall. Your school can redeem the panels for cash to use any way it wants. For more information on Tyson Project A+, call 1-800-233-6332 or visit ProjectAplus.tyson.com.

AOL @ SCHOOL - a new online educational service that provides age-appropriate content, easy-to-use safety tools, and other resources that teachers and students need to make the Internet an integral and useful part of the classroom experience. AOL @ School will be provided (at no cost) to all interested K-12 schools starting with the 2000-2001 academic year and installation disks are available now from America Online. The service is based on a series of specially designed portals for students in grades K-2, 3-5, middle school, and high school. These portals connect students to websites that have been rated as the best educational content for that grade level, as well as online tools that will aid classroom learning such as online calculators and dictionaries.

There are also special portals for teachers and administrators to help them integrate Internet resources with their other classroom activities.

Call 1-888-708-0719 to have free installation CDs sent or access the AOL@SCHOOL portals and order installation CD's AT KEYWORD:AOL@SCHOOL or <http://school.aol.com>.

Do you know about **BJ's ADOPT A SCHOOL PROGRAM**? Last February they participated in the National Education Association's Annual Read Across America Day. BJ's conducted a month-long reading incentive program. Participating classrooms whose students read the most were rewarded with a Dr. Seuss Birthday Party! Why not check this out on www.bjs.com. The article about this program appeared in BJ's Journal of March 2000.

STARSHINE 2 PROJECT – National Aerospace Teachers' Association-NATA (nata@jsucc.jsu.edu). Contact: Chenein N. Segalas, Project Coordinator, Aerospace Development Center.

There is an exciting new opportunity for teachers to involve students in the world of space. Starshine II is the second mission in the Starshine series, a project that brings students together from around the world to work on one mission. Students work together in their schools to polish mirrors that will be placed on the orbital. Approximately 800 mirrors will be used, and the orbital will be launched from a space shuttle mission for the International Space Station. It will orbit the earth at an angle of 60 degrees, allowing the students to be involved in tracking the path of Starshine II as it orbits closer to the earth, eventually disintegrating in our atmosphere. We would like you to visit the Starshine website at www.azinet.com/starshine to learn more about getting your school involved. There's no cost, and all you have to do is sign up!



TARGET STORES awards over three million dollars in student and teacher scholarships every year. The Target All-Around Scholarship recognizes students who volunteer in their communities and Target Teacher Scholarships help teachers and school administrators pursue their educational goals. These scholarships are part of the Take Charge of Education initiative. You can pick up an application at your nearest Target store, visit www.target.com or call 1-800-316-6142 for more information.



Did you know that the Internet is a great way to find funding? Start at a Search Engine (yahoo! is a good one) and type in **education grants**. Then look for a topic that looks similar to what you need. Check out www.cs.virginia.edu/research/sponsors.html for a list of potential funders.

SOFTWARE

Exploring the Real World (grades 2-6) challenges students to use real world themes from science, math, and social studies. All of the topics in the elementary version are keyed to core learning goals based on national standards from EBSCO. Visit www.ebscosrn.com/and click on Curriculum Associates.

I Love Science! From DK Interactive Learning; call 888-342-5357 for more than 1,000 science problems and experiments to work with for grades 2-5.

The Incredible Machine from Knowledge Adventure (800-545-7677) is an invention game that will keep students working on simple cause-and-effect machines using pulleys, levers, motors, and more.

Integrating Lessons -- Writing is an integral part of science. Integrating writing enhances observation and communication in science learning. Use the following Internet connections with a writing emphasis:

Rocks and Minerals Slideshow:

<http://volcano.und.nodak.edu/vwdocs/vwlessons/slideshow/slideindex.html>

Minerals by Name: http://mineral.galleries.com/minerals/by_name.htm

Sands of the World: www.chariho.k12.ri.us/curriculum/MISmart/ocean/sands.htm

RESOURCES TO SEND FOR – BACKGROUND MATERIAL

American Coal Foundation
1130 17th St., NW, Suite 220,
Washington, D.C. 20036-4604

Good source for maps showing coal distribution, lesson ideas, and short vignettes featuring the connection between everyday materials and mining and minerals.

Can Manufacturers Institute
1625 Massachusetts Ave., NW.
Washington, D.C. 20036

Provides supplementary materials, lesson ideas, and activities.

National Aeronautics and Space Administration
Educational Division, Mail Code FET,
Washington, D.C. 20546-0001

Provides lithographs, solar system materials, activities, kits and much more.

All of the materials from the mentioned companies/organizations meet Core Curriculum Standards.

OTHER NEAT MATERIALS

SCIENCE PUZZLERS – based on science principles – many explained by Newton's Laws. Only \$8.95 for the 64-page book (plus s&h) if you order from the:

Teaching and Learning Company
1204 Buchanan Street
Carthage, IL 62321-0010

Inventorlabs Transportation CD-ROM - This program puts students in inventors' shoes! Students encounter the excitement of hands-on discovery and build critical science skills. The CD is by Houghton Mifflin (#460053T90 – WIN/MAC CD-ROM - \$29.95) from Hearlihy and Company – 1-800-622-1000.

A POTPOURRI OF RESOURCES

Websites

Eric's Origami Page

www.paperfolding.com – not just airplanes!

Science/Nature for Kids

<http://Kidscience.about.com/Kidsteens/Kidscience>

For the K-12 classroom

A comprehensive site for every science topic!

The Science Spot

<http://Kato.theramp.net/sciencespot/>

A middle school database of lessons, projects and on line resources by topic.

K-12 Math

<http://www.funbrain.com/math>

Batter up, play math baseball and test your math smarts at all levels.

Websites for Astronomy

<http://www.earthsky.com>

<http://www.currentsky.com>

<http://walt.stcloudstate.edu/dome/>

<http://winshop.com.au/annew/cons.html>

Mae Jemison was the first African – American woman to travel in space in 1992 on the shuttle *Endeavor*. Find out more at:

<http://teams.lacoe.edu/documentation/classrooms/judi/web/mae2.html>

Search *Encyclopedia Britannica's* website for Amelia Earhart. Type in her name at www.britannica.com and hit the find button. Ask your RDAE for an Amelia Earhart curriculum package.



Want to know more about the achievements of women at NASA? Go to <http://www.jsc.nasa.gov/pao/womens-history/> and retrieve biographies on Sally Ride, Kathy Sullivan, Eileen Collins, Ellen Ochoa, Mae Jemison, Shannon Lucid, Linda Ham, Helen Lane, Eileen Stansbury, Gloria Young and Denise Baisden. You will find many careers represented.

NASA Home Page:

<http://www.nasa.gov/>

NASA Spacelink:

<http://spacelink.msfc.nasa.gov/>

Johnson Space Center:

<http://www.jsc.nasa.gov/pao/educators>

NASA Astronaut Biographies:

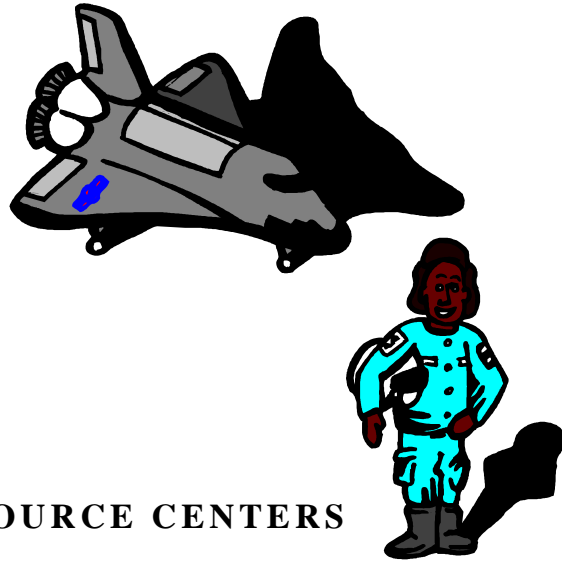
<http://www.jsc.nasa.gov/Bios/>

NASA Shuttle Flights:

<http://www.osf.hq.nasa.gov/shuttle>

NASA/MIR Program:

<http://shuttle-mir.nasa.gov>



TEACHER RESOURCE CENTERS

NASA Ames Research Center

Teacher Resource Center

Mail Stop TO-25

Moffett Field, CA 94035

(415) 604-3574

NASA Goddard Space and Flight Center

Teacher Resource Laboratory

Mail Code 130.3

Greenbelt, MD 20771

(301) 286-8570

NASA Langley Research Center

Mail Stop 146

Hampton, VA 23665-5225

(757) 864-3293

NASA John F. Kennedy Space Center

Educators Resources Laboratory

Mail Code ERL

Kennedy Space Center, FL. 32899

(407) 867-4090

Wallops Flight Facility Education

Complex-Visitor Center

Teacher Resource Center

Bldg. J-17, P.O. Box 98

Wallops Island, VA 23337

(804) 824-2297

NASA Johnson Space Center

Teacher Resource Center

Mail Code AP-4

Houston, TX 77058

(713) 483-8696

Alabama Space and Rocket Center

Teacher Resource Center

Huntsville, AL 35807

(205) 544-5812

NASA Stennis Space Center

Teacher Resource Center

Bldg. 1200

Stennis Space Center, MS 39529

(601) 688-3338

NASA Jet Propulsion Laboratory
Teacher Resource Center
JPL Educational Outreach
4800 Oak Grove Dr.
Mail Code CS-530
Pasadena, CA 91109
(818) 354-6916

NASA Ames-Dryden Flight
Research Facility
Public Affairs Office (TRL.42)
Teacher Resource Center
Edwards AFB, CA 93523
(805) 258-3456

NASA Glenn Research Center at Lewis Field
Teacher Resource Center
Mail Stop 8-1
21000 Brookpark Road
Cleveland, Oh 44135
(216) 433-2017

CD-ROMS

New CD-ROMS for grades 3-6:

Fun With Science consists of animated adventures, decision-making activities and hands-on simulations in such areas as flight, communication, earth science and history. Contact VTECH at 1-800-742-1050 or go online at www.vtechsoft.com for more information.

SCIENCE BOOKS FOR KIDS

In the Beginning: Creation Stories from Around the World by Virginia Hamilton and Barry Moser from Harcourt Brace, 1996 (ISBN 0-15-238740-4).

You Can't Take a Balloon Into the Metropolitan Museum by Jacqueline Preiss Weitzman and Robin Preiss Glasser from Dial, 1998 (ISBN 0-8037-2301-6).

Everybody Needs a Rock by Byrd Baylor and Peter Parnall from Simon & Schuster, 1974 (ISBN 0-689-71051-8).

Multi-Media – The Human Body from Sunburst Communications – a study of life science in a dynamic style. Visit Sunburst at www.sunburst.com.

MindTwister Math – math enters the game show world. For grades 3-4 to help build student math fact fluency, practice mental math and improve estimating skills through a series of math challenges. Go to www.edmark.com.

FREEBIES

Introduce children to “**Sleepyhead: A Good Night’s Rest Makes Learning Much Easier,**” a free educational comic book from American Innerspring Manufacturers (AIM). The entertaining story is the perfect springboard for a discussion about the importance of a good night’s rest for optimum health and learning.

For grades 3-8. AIM will send you up to 30 copies of this comic book about the importance of sleep free of charge. To order: call 800 - TUCK ME IN or download the comic at www.aiminfo.org/html/whats_new.html.

If you are unsure what to do about a child who stutters in the classroom, you're not alone, according to the Stuttering Foundation of America. Why not order **"The Child Who Stutters at School: Notes to the Teacher"** brochure during National Stuttering Awareness Week (May 8-14)? It answers a host of questions such as, "Should I call on the child in class?" and "How should I handle teasing?" The Foundation will also send you a brochure featuring 14 famous people who overcame stuttering—from Winston Churchill to Marilyn Monroe—plus a catalog of its many low-cost resources. This information about childhood stuttering is for teachers of grades K-6. To order, call 800-992-9392 or visit www.stutterSFA.org.

Help prepare your students for hurricanes and other types of severe summer weather with Owlie Skywarn booklets for boys and girls, available free from the National Oceanic and Atmospheric Administration, Owlie Skywarn, an adorable, rubber-boot-and-rainsuit-clad owl, teaches kids facts and safety tips about hurricanes, tornadoes, lightning, and flash floods. These severe weather information and safety tips are for grades K-6. To order, write to: National Oceanic and Atmospheric Administration, Office of Public and Constituent Affairs, Outreach Unit, 1305 East-West Highway, Room 1-W 514, Silver Spring, MD 20910. For more information: Visit www.education.noaa.gov.



You can help your students and their families stay healthy while enjoying grilled meats and potato salad with **"Your Game Plan for Food Safety,"** a free multimedia curriculum kit from Fight BAC! The kit comes with a 20-minute video in which reporters for the Washburn Word School Newspaper introduce the basics of food safety while investigating why basketball team members became ill after a cookout. The kit also



includes a teaching guide with reproducible experiments, a colorful classroom poster, games, safety tips for cooking hamburgers, and a thermometer for measuring food temperatures. This food safety program is suitable for grades 4-6. To order, visit www.fightbac.org or fax a request on school letterhead to 800-358-5218.

FREE VIDEOS

Pay Postage Only - \$3 each

Developing Natural Resources on Public Lands: Minerals Showcase Series. This series of five videos was produced by federal and state government land use agencies in cooperation with private industries operating throughout the western United States.

- ♦ **Showcasing Mineral Activities** demonstrates the concept of mineral activities being conducted on National Forest System lands in harmony with other resources and values. Showcasing is a way to get minerals needed by society extracted from the Earth in an environmentally sensitive manner. It discusses the cooperation and partnerships involved in mining on public lands. 15:00 minutes.
- ♦ **Phosphate and the Forest** offers a comprehensive look at today's modern phosphate industry which produces fertilizer critical to foods and others plants necessary to sustain life on Earth. It illustrates other needs for phosphate and the pure element phosphorus in today's modern lifestyle. It explores the economic and environmental impact of phosphate mining in southeast Idaho. 28:30 minutes.
- ♦ **Coal Mining in a Multiple Use Environment** illustrates that coal extraction is an important use of our public lands, and is part of the multiple-use land management concept. It explains how coal was formed, and demonstrates how it can be mined through industry/government cooperation so that the forest visitor is unaware of any mining taking place. 19:00 minutes.
- ♦ **Hardrock Showcase – Humboldt National Forest** shows how gold mining operations can be integrated with other uses of public land. It demonstrates that through careful planning, design, and personal commitment, environmental impacts from minerals extraction can be reduced to an acceptable level. It explains special measures taken to protect a threatened species of cutthroat trout. 16:46 minutes.
- ♦ **Wasatch-Cache Petroleum Showcase** illustrates that through cooperation and planning, the Forest Service, other regulatory agencies, and the petroleum industry can develop the nation's energy resources while making every effort to preserve and enhance environmental values for wildlife habitat and provide watershed protection. 18:30 minutes.

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

√ *Mark which videos you would like and send check for \$3 each to:*

Mineral Information Institute
501 Violet Street
Golden, Colorado 80401

**MINERAL
INFORMATION
INSTITUTE, INC.**

303-277-9190. fax: 303-277-9198
www.mii.org

FROM AROUND THE REGIONS

Dennis Yeager, RDAE from the North Central Region, sends us the websites concerning the colonization of Mars:

A site for the Mars Millennium Project can be found at <http://mars2030.org/>.

Information on Mars Project Phase One can be found at <http://marsproject.com/>.

This is part of an educational simulation of the colonization of the Red Planet in which students experience the trip and the settlement through virtual reality. He also sends the following information about the CAP Excellence Award Program, for Middle Schools:

EARN THE AEROSPACE EDUCATION EXCELLENCE AWARD FOR THE MIDDLE SCHOOLS OF AMERICA

Civil Air Patrol's Aerospace Education Excellence Award for the Middle Schools of America can be earned in the 2000-2001 school year. The award is a beautiful plaque to be proudly displayed in the classroom. Participating students receive their own certificate of completion to take home.

The Aerospace Excellence Award program is offered free of charge to teachers who are Aerospace Education Members of Civil Air Patrol (CAP), the U.S. Air Force Auxiliary.

CAP Aerospace Education Member teachers must sign up for the 2000-2001 Aerospace Education Excellence Award before September 30, 2000. "The Agreement" indicating your participation must also be signed by your school principal. (You are encouraged to sign up earlier if you are a first time participant so materials reach you in time to begin the program in October.)

Aerospace Education Members signing up for the program receive five (5) Aerospace Activity booklets with a wide variety of over 80 activities to do with your students. One activity must be completed each of the six months of the program (October 2000-March 2001). In addition, one "Aerospace Education Day" must be completed and reported during any one of the six months. The Aerospace Education Day should be no less than two hours in duration. The monthly activities and one Aerospace Education Day are reported each month to National Headquarters CAP on a simple, single-page report form.

To receive the booklet explaining the Aerospace Excellence Award program, contact your CAP Region Director of Aerospace Education. The booklet includes the Aerospace Education Member application and all required forms for signing up and reporting for the award.

Dr. Ben Millspaugh, RDAE from the Rocky Mountain Region would like us to investigate the following website:

<http://www.aiaa.org/>

The American Institute of Aeronautics and Astronautics will send you a periodical with articles on the latest in aerospace science and technology once you become one of their educational associate members. Their educational division also has teacher grants and awards and the point of contact is Lisa Bacon. The AIAA has one or more representatives in your area to help you with resources. Using the website, ask for the educational “promo-pak” and request information on area representatives.

From the CAP National Headquarters we have the following web for you to check out:

<http://www.arcamax.com/freebies/of0006164pa>

You should find print activities – paper airplanes – 100+ designs in ten categories! See if the Print Activities: Paper Airplane! is still available on CD-ROM. It is free, but you must pay \$3.99 for s&h. Go to <http://www.arcamax.com/freebies/of0006164pa> Good luck!

Did you know that the NASA Connect Program was awarded two regional Emmy Awards?

Two NASA CONNECT programs that aired in 1999, “The Measurement of All Things: Tools of the Aeronautics Trade,” and “Geometry of Exploration: Water Below the Surface of Mars?,” won two Capitol Region Emmy Awards Saturday, June 17, 2000, at the 42nd Annual National Academy of Television Arts and Sciences ceremony in Washington, DC. Needless to say, winning two Emmy Awards is further proof that NASA Connect has become a quality instructional program.

GREAT CATALOGS

Middle School Catalog 2000 from Interact. Carries simulations, thematic units, pull-out programs, cross-curricular activities. For aerospace education the following programs are recommended:

1. **Earth Science Contracts or Space Contracts** – projects of varying difficulty for individuals and groups. Uses Gardner’s theory of multiple intelligences and Bloom’s cognitive taxonomy.
2. **Mars** – a simulation of human exploration of our solar system’s fourth planet. Utilizes cooperative learning theories.
3. **Project Polaris** – a simulation in which students build a space station while using estimation and measurement.
4. **Space Probe** – a simulation in which students develop scientific probes to explore the universe.

Contact Interact at 800-359-0961 for a copy of the catalog.

All about Astronomy – books, CD-ROMS, historical material from:

Willmann-Bell, Inc.
Post Office Box 35025
Richmond, Virginia 23235
(804) 320-7016 Voice (804) 272-5920 FAX
www.willbell.com

A new catalog featuring Core Curriculum educational videotapes, videodiscs, CD-ROMS and multi-media programs can be obtained from **Phoenix Films & Video**. Specify K-6 or 6-12 grade category for the Science/Math/Health catalogs. Call toll-free: 1-800-221-1274.

The Teaching Company has great courses on tape. Some, such as Einstein's Relativity and the Quantum Revolution: Modern Physics for Non-Scientists, Understanding the Universe: An Introduction to Astronomy and the Great Principles of Science, deal with science. Call 1-800-832-2412 or fax to 1-703-912-7756 to request a catalog.

Scholastic Teacher Resources for K-8 has math and science resources in addition to Teacher Tips. Featured is a Technology Section for Teachers as well as a Professional Development area. Visit the website at www.scholastic.com or fax to (1-800) 223-4011.

Teacher Ideas Press if you are looking for more science ideas, you will find great resources in this catalog. There are many resources for technology enhancement. Website: www.lu.com; phone: 1-800-237-6124.

Really Great Stuff Catalog has neat science videos for grades K-3 and K-4 as well as other teaching tools. Go to www.reallygoodstuff.com or call 1-800-366-1920.

MindWare creative enrichment for school age kids. Go to www.MINDWAREonline.com for a catalog featuring materials to emphasize visual thinking, critical thinking, multiple intelligences, computer/internet competency and much more.

GREAT PLACES TO VISIT

MUSEUMS OF SCIENCE

For more information – use **America's Scientific Treasures: A Travel Companion** by Paul S. Cohen and Brenda H. Cohen (**Oxford** University Press, 1998).
Lesson Integration: Culminating Activities.

Connecticut – Menczer Museum of Medicine and Dentistry -- 860-236-5613.

Admission: \$2.00 contribution requested. Located in Hartford. A neat place to visit to view surgical instruments from the Revolutionary War to the mid-20th century. Neat displays.

Florida – Miami Museum of Science -- 305-646-4200. Admission: \$9.00 for adults, \$7.00 for students and seniors. The museum features exploration of Florida, the Southern Hemisphere, and the Caribbean Basin. Walk through the simulated Everglades and experience a coral reef and rain forest. Also features a hands-on Hall of Science.

Maryland – Baltimore Museum of Industry -- 410-727-4808. Admission: \$3.50 for students and seniors; \$5.00 for adults. This museum features a series of re-created workshops and factories. Students can build a replica of a 1914 truck and use a printing press. A great hands-on museum.

Maryland Science Center in Baltimore -- 410-685-5225. Admission: \$10.50 for adults and \$7.50 for students. Another hands-on, interactive museum. See asteroids or experiment with sight, sound, and magnetism. There is a new OUTER SPACE exhibit where you can visit galaxies, planets and stars.

Massachusetts – Museum of Science in Boston -- 617-723-2500. Admission: \$10.00 for adults and \$7.00 for students. This museum features a geology garden containing samples of rocks and minerals from all over the world. (See our companion piece on the Mineral Information Institute in this issue). Visit The Human Body Discovery Space and the Theater of Electricity and much more. (See the companion Simple Circuit experiment in this issue).

New York –The Empire State Aerosciences Museum -- 518-377-2191. School groups welcome for class activity sessions on making rockets, launching rockets, craftstick modeling, build a B-2 model, explore the museum, sit in static aircraft, and much more. There is a small materials fee for the classes. A neat place to enjoy a hands-on experience.

Great Lakes Science Center, Cleveland -- 216-694-2000. Admission is \$7.75 for adults and \$5.25 ages 3-17. This is another hands-on, interactive museum. See an eight-foot indoor tornado that twists and twirls. Climb aboard the Bridge of Fire where electricity causes everyone's hair to stand on end!

Pennsylvania – The Franklin Institute Science Museum and Planetarium -- 215-448-1200. Admission \$9.75 for adults and \$8.50 ages 4-11. The Franklin Institute is located in Philadelphia. Children under 4 admitted **Free**. Great exhibits on physical science. Pilot a T-33 Air Force jet from the cockpit trainer and visit the Wright Brothers' Cycle Shop. Become a blood corpuscle and walk through a pulsating heart, watch paper being made, and gaze at the stars! A great hands-on experience museum.



Washington, DC – The Smithsonian – 202-357-2700. Admission: **Free**. A favorite area is **The National Air and Space Museum** where you could find the Wright Brothers' 1903 Flyer, the human powered Gossamer Condor, the Apollo II Command Module and the Space Race Exhibit. There is an interactive How Things Fly gallery which explains the principles of flight.

Do you have a favorite science museum in your region that you would like featured? Follow the short format featured in this issue and send it along to the editor for the next issue. Have fun!



LIGHT THE BULB EXPERIMENT

OBJECTIVES

- To discover by trial and error how to build a simple circuit.
- To convert energy from one form to another.

MATERIALS

- Tape
- Flashlight Bulb
- Two feet of wire, with the ends stripped of insulation
- One C or D cell battery

PROCEDURE

1. Tape one end of the wire around the base of the flashlight bulb.
2. Hold the other end of the wire to the bottom of the battery.
3. Touch the base of the bulb to the center terminal of the battery.

The bulb should light!

In order for the bulb to light, the circuit must be closed. A circuit is a group of electronic components connected together. In the circuit you created, the battery (an electronic component) serves as a source of energy called electricity. Electrons flow from the negative terminal of the battery and pass through the test wire until they encounter the bulb. The bulb is an indicator (and an electronic component). It manifests the use of energy by emitting light and heat. Electrons then return to the positive end of the battery through the test cable. This continuous path is known as a closed circuit. When a circuit is open, the flow of electrons is interrupted.

